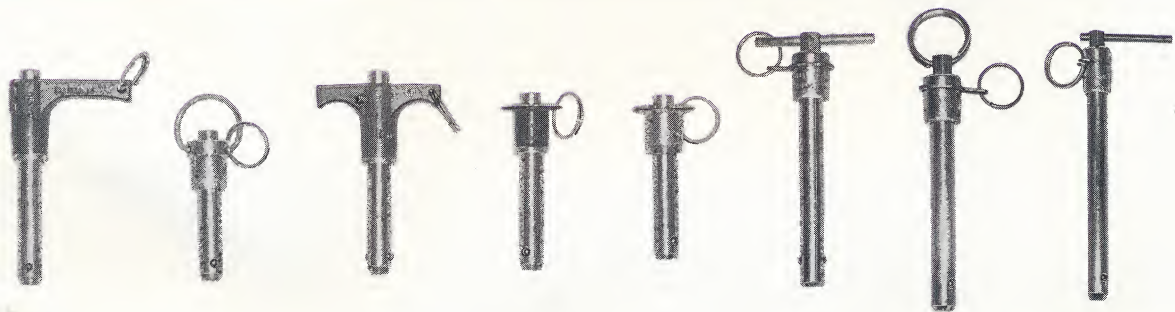


SPACE-LOK PINS

POSITIVE LOCKING

QUICK RELEASE

- SINGLE ACTING
- DOUBLE ACTING
- GROUND SUPPORT
- CARGO HANDLING
- SPECIAL DESIGNS



FEATURING UNLIMITED MATERIAL TYPES, METHODS OF RELEASE AND HANDLE CONFIGURATIONS

MEET NAS AND MS REQUIREMENTS

SPACE-LOK

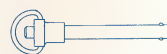
Single-Acting

In single-acting Space-Lok pins, internal spindle moves when control button (in head of pin) is intentionally depressed, permitting protruding locking steel balls to recede and become flush with outer surface of pin body. This permits easy insertion or removal of Space-Lok pin through a predetermined size opening. When control button is released, spring action permits spindle to return to locking position in which the steel balls are forced through the openings beyond the pin shank diameter to form the gripping surfaces.

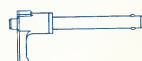
4 HEAD STYLES



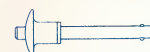
'T' HANDLE



'R' HANDLE



'L' HANDLE



BUTTON HANDLE

USE SPACE-LOK PINS FOR

- PRIMARY CONTROLS
- LITTERS
- LANDING GEAR
- POWER PLANTS
- ARMAMENT
- BOMB BAY DOORS
- SEATS
- CARGO TIE-DOWN
- GROUND HANDLING EQUIPMENT
- ROCKET AND MISSILE LAUNCHERS

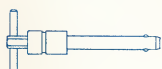


POSITIVE LOCKING, QUICK RELEASE **PINS**

Double-Acting

In double-acting Space-Lok pins, internal spindle is ground with recesses at either end of protrusion-forcing surfaces. Thus, locking steel balls recede and flush with outer surface of pin body when spindle is either depressed or extended. Double-acting pins are especially desirable in rugged, heavy load uses requiring maximum safety. An optional "drive-out" feature is available when pin "freezes" or is subjected to overload conditions. Extra tensions can be obtained by increasing number of gripping steel balls.

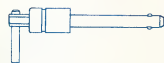
3 HEAD STYLES



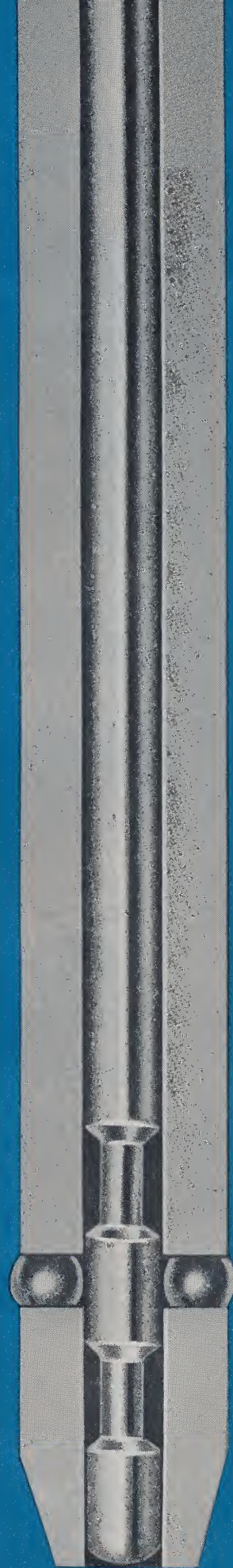
'T' HANDLE



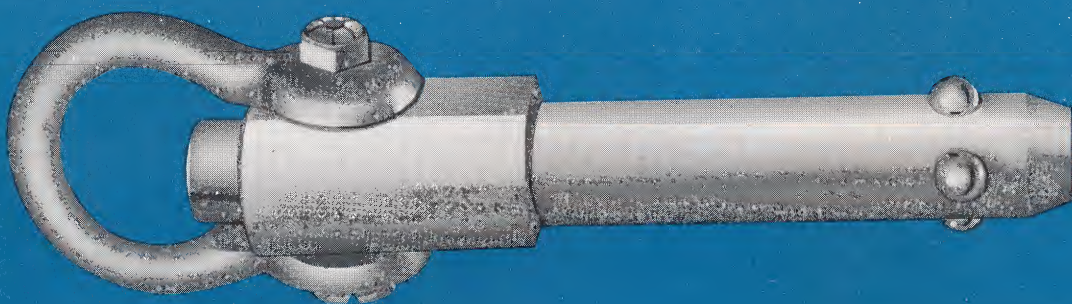
'R' HANDLE



'L' HANDLE



FROM SPACE-LOK



NEW RELEASE METHODS

Explosive squibs can be built into the head of the pin and fired electrically to actuate the spindle and release the balls from a remote location or can be fired with a firing pin mechanism triggered by a lanyard. Air pressure can be used to actuate a small pneumatic cylinder built integrally into the head of the pin. Such a system requires no replacement of explosive charges and can be used for remote pin release where electric actuation is not desirable. Solenoids are most satisfactory in still other installations.

NEW MATERIALS

Super-Strength pins can be supplied of Vascomax 300 or Vascojet 1000 having shear strength of 170 to 200,000 psi or of 4340 alloy steel having shear strengths of 150,000 psi. Nylon pins with A286 springs have been used successfully for non-magnetic applications where moderate strength and light weight are important. Brass or Aluminum pins find use where explosion proof hardware is required.

SPECIAL FINISHES

High strength alloy or tool steel pins may be plated with Nickel Cadmium diffused coatings to prevent oxidation where temperatures to 1000°F. are required. Gold plated pins can be supplied for use in very high vacuum applications to meet certain space requirements.

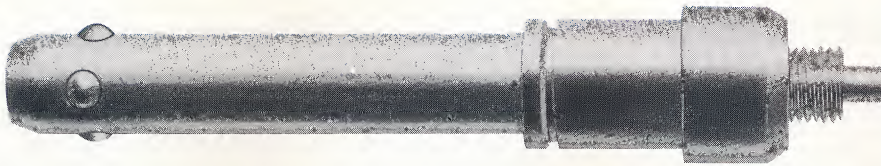
HIGH TEMPERATURE ALLOYS

Pins made from nickel base alloys such as M252 or Waspaloy can be used at temperatures up to 1500°F. Use of Udimet 500 or Udimet 700 for temperatures up to 1800°F. is being developed. A286 material is excellent where both good strength is required and high temperatures up to 1200°F. are to be encountered. Such pins are highly specialized and are developed for each individual application.

TENSION APPLICATIONS

Greatly increased tension capabilities can be achieved (over the standard design) by increasing the number of working balls, modifying the design and material of the spindle, and by properly designing the face of the structure receiving the pins. Threaded sleeves can be adapted to the pin heads in such a manner as to provide either induced tensile pre-load in the pin after it is in the locked position or to provide a variable grip quick release pin.

FASTENERS OF THE FUTURE



Special pneumatic pin

Capable of carrying full tension and shear loads. Can be operated remotely. Utilized where explosives or electrically operated systems are not feasible. Manufactured or designed to your exacting specifications.



Special squib actuated pin

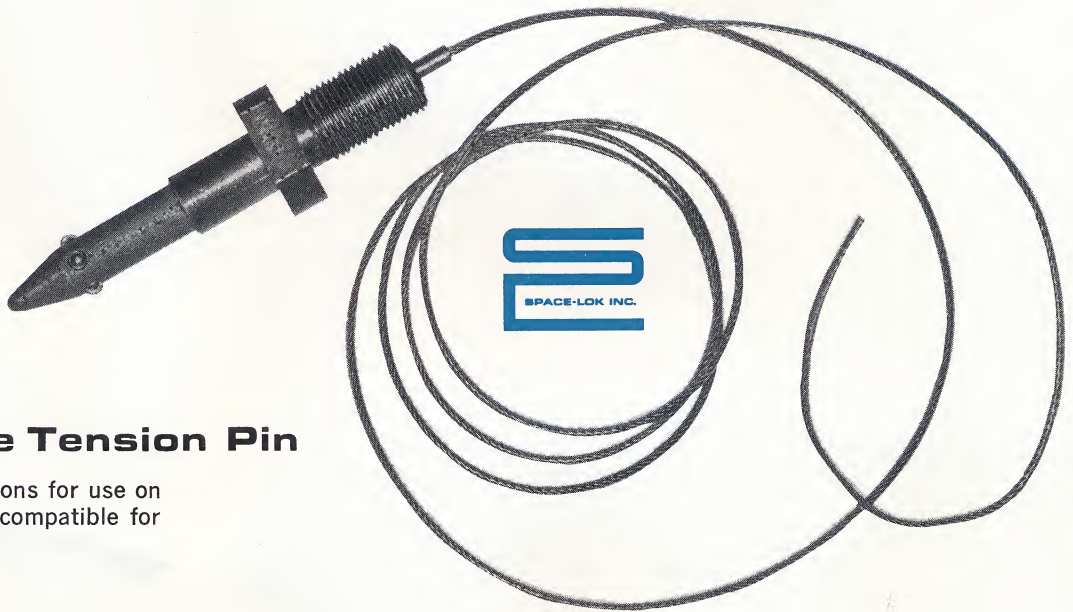
Specifically developed to be used for separation or release of components such as, launching pads, capsules or any type of ejection equipment. Utilizes a squib of low pressure type to actuate the spindle.



"Titan

Missile Pin"

Utilized to actuate stage-to-stage electrical circuit in flight.



Special Remote Tension Pin

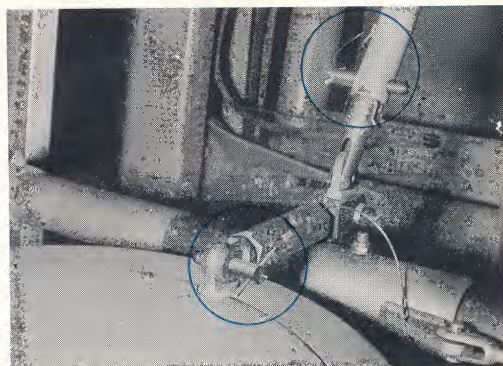
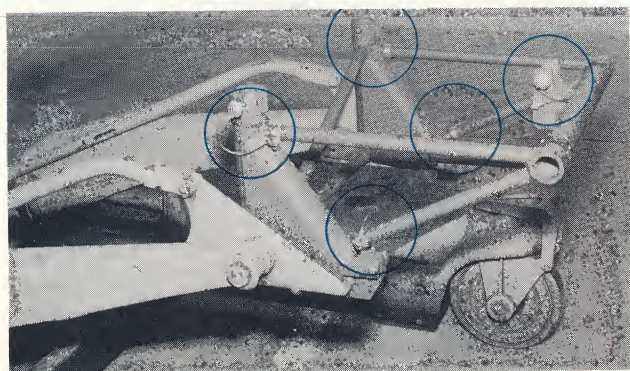
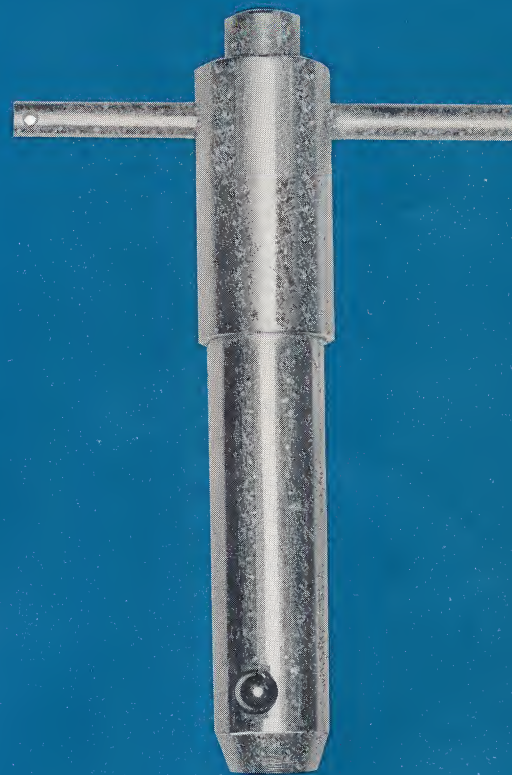
Designed to exacting specifications for use on the Saturn Gantry System Lox compatible for space equipment.

CONSULT OUR ENGINEERING SALES STAFF FOR ANY INFORMATION REGARDING THESE SPECIAL APPLICATIONS

SPACE-LOK

GROUND SUPPORT PINS

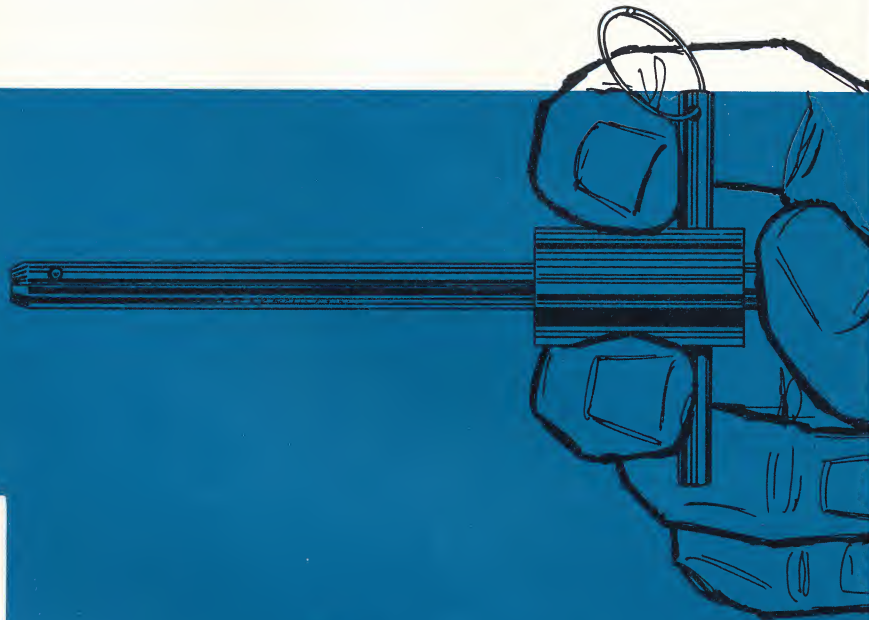
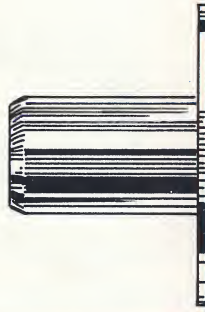
Space-Lok ground support pins are specifically designed for use in all types of ground handling equipment from wheel dollies to missile launchers and carriers. Standard pins are produced to exact standards and close tolerances for each specific job. They are engineered to hold fast for maximum safety and to withstand the rough handling of constant and repeat usage in the field. Available in "T" and "L" type handles in a standard line of sizes from 3/16" to 3" diameter with up to 10" grip lengths. Handles are drilled for attaching a lanyard to prevent loss of pin. Special design services for special pins are also available.





SPACE-LOK RECEPTACLES

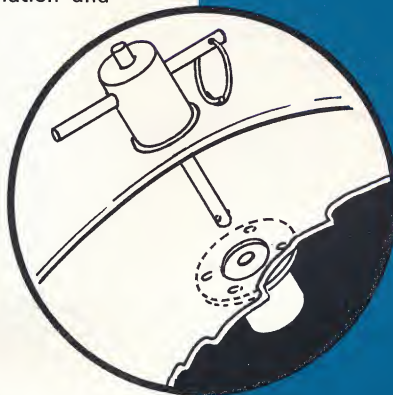
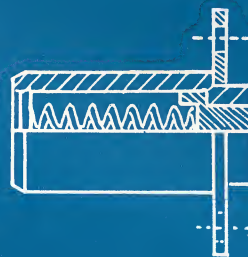
LIGHT, SHORT,
STRONG,
FLUSH MOUNTED
RECEPTACLES SOLVE
WEIGHT-SPACE
PROBLEMS



The combination of Space-Lok positive locking, quick release pins and matching receptacles provides a fastening element that offers speed of attachment, quick locking and release for lifting, holding or stabilizing equipment, materials and accessories. Space-Lok receptacles can be flush mounted on any surface where the flange can be attached. Use them for air cargo pallets, cargo tie-down points, transport chair rails or any other location where a fixed tie down point requires frequent quick connect and disconnect. Space-Lok positive locking, quick release pins, cannot be accidentally released except by manually **pressing** button and **pulling** which removes pin quickly from receptacle.

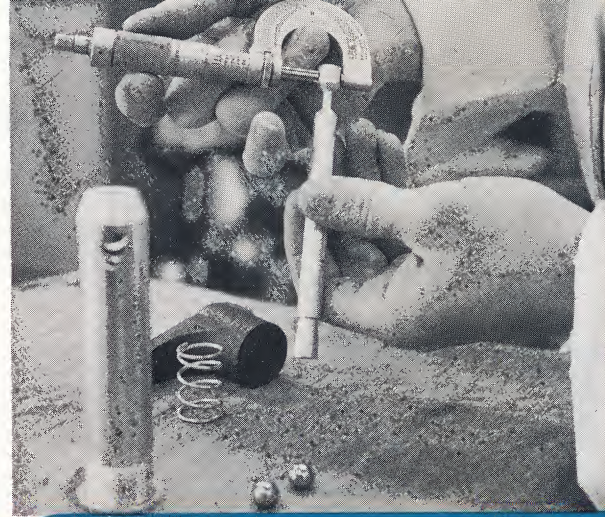
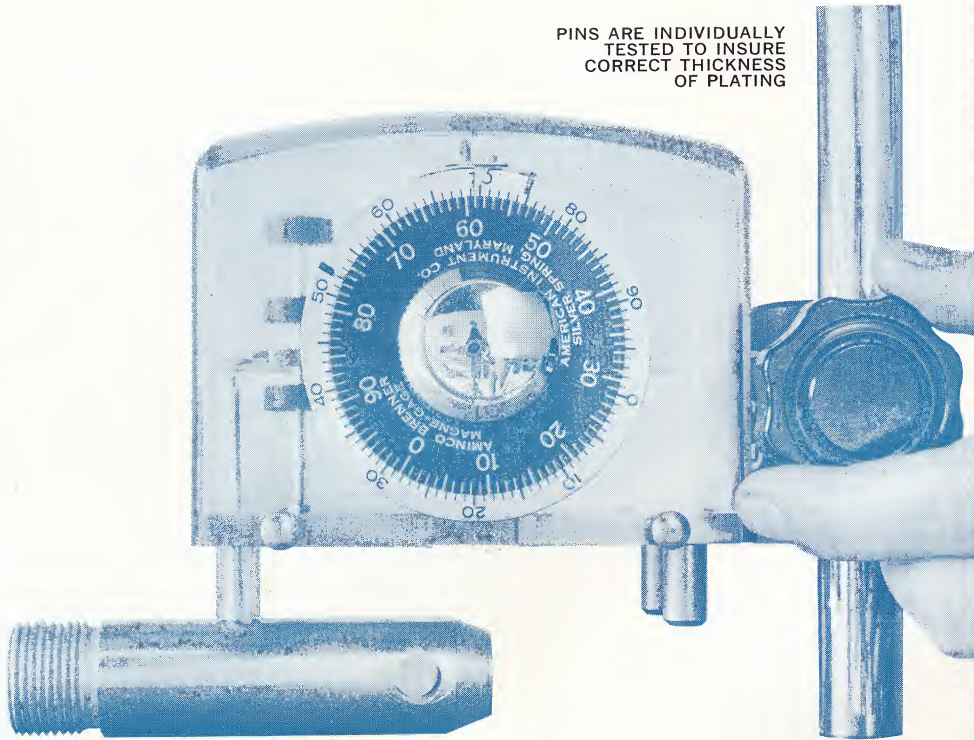
RECEPTACLE SHOWN ACTUAL SIZE

Special diameter, depth and mounting plates can be manufactured for special applications. Consult your Space-Lok Sales Engineer for further information and prices.



IN PROCESS
INSPECTION

PINS ARE INDIVIDUALLY
TESTED TO INSURE
CORRECT THICKNESS
OF PLATING

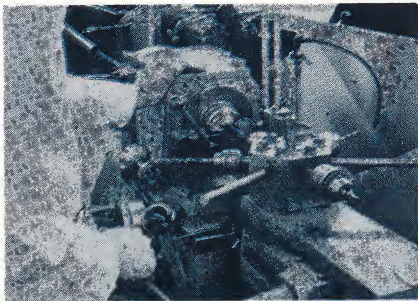


QUALITY YOU CAN
DEPEND ON

Regardless of style, diameter or grip length, Space-Lok pins are designed for simple, easy operation and engineered for maximum dependability. Precise Quality Control at every step of the production line, from raw stock to the finished product, guarantees that Space-Lok pins are manufactured to meet or exceed the exacting requirements of today's Aero-Space needs.

Tomorrow's environmental and performance specifications are being resolved now in Space-Lok's Research and Development laboratories. Unusual requirements peculiar to your individual fastening problems can be quickly and accurately solved by our Engineering Representatives throughout the United States.

Pins are individually tested to insure correct thickness of plating. Pin components are matched and hand assembled to insure complete reliability. Precision Equipment.



PRECISION
EQUIPMENT

PIN COMPONENTS ARE
MATCHED AND HAND
ASSEMBLED TO INSURE
COMPLETE RELIABILITY

SPACE-LOK INC.

2526 N. ONTARIO ST., BURBANK, CALIFORNIA
VICTORIA 9-6751 • TWX 213 846-1792

